

NOTES ON THE FIJIAN
ENDEMIC *MERYTA*
TENUIFOLIA (ARALIACEAE)

Meryta J. R. & G. Forst. comprises about 30 species of dioecious, simple-leaved araliaceous trees and shrubs, nearly all of which are endemic to one or a few Pacific islands. The genus is centered in New Caledonia, where 11 species occur (Lowry, unpubl. data), and four species are recognized in Samoa and Tonga (Cox, 1985), one of which also appears to have been collected recently on Alofi (Morat & Veillon, 1985). *Meryta* reaches its western limit in Micronesia on Yap and has one species each in Vanuatu (formerly New Hebrides), Norfolk Island, New Zealand, and Rarotonga (Cook Islands). In Polynesia, perhaps three to five species occur on Tahiti, where they form a polymorphic and taxonomically difficult complex; two species have been described from Raiatea, and one species, *M. brachypoda* Harms, occurs on Raiavavae and on Tubuai. One endemic species of *Meryta* is found on Rapa to the south, and an undescribed species has been collected in the Marquesas.

Until recently, *Meryta* was thought to be lacking from Fiji (Smith & Stone, 1968). In December 1968, however, a single pistillate collection with mature fruit was made in the mountainous interior of Viti Levu and was described as *M. tenuifolia* by Smith (1971). This material is somewhat fragmentary and the descriptive notes that accompany it are sketchy. Nevertheless, it is clear that *M. tenuifolia* is very distinctive within the genus and is remarkable in being a large, highly branched canopy tree to nearly 25 m tall.

During a visit to Fiji in November 1985, I was able to re-collect *Meryta tenuifolia* near the village of Vanualevu, at the edge of the Rairaimatuku Plateau. A small population comprising several individuals of this tree, known locally as "lutulutu," was found on a gentle slope in dense, undisturbed forest at

980 m elevation, less than one km to the east of Vanualevu, perhaps two km to the north-northeast of the type locality. We located staminate plants in bud and flower as well as pistillate individuals with flowers and nearly mature fruits. Pressed specimens supplemented with FAA-preserved material and color photographs permit the following amended description.

Meryta tenuifolia A. C. Smith, Pacific Sci. 25: 499. 1971, *emend.* Lowry. TYPE: Fiji. Viti Levu: Nandronga & Navosa (now Navosa) Prov., rocky bank of Nggalivava Creek, a northward flowing stream joining Lumunda Creek (Singatoka River tributary), ca. 1.5 km S of Vanualevu, 750–800 m, 4 Dec. 1968 (fr), *M. J. Berry* (coll. *E. Damanu*) 97 (holotype, BISH; isotype, K). Figure 1.

Dioecious, branched, glabrous trees to ca. 25 m tall; trunk to ca. 70 cm dbh, fluted to ca. 1 m; stems robust, covered with numerous leaf scars. Leaves simple, alternate, clustered at the ends of branches; blades medium green above, lighter below, chartaceous, broadly elliptic, (9–)11–22 × (5–)7–12(–13) cm, the venation light yellow green, the midvein raised but without prominent bulges below, the secondary veins 8–11, diverging from the midvein at 50–60° angles, arcuate at the ends, the higher-order veins evidently raised above and below, forming a dense network, the apex rounded to obtuse or broadly acute, the margin entire, minutely thickened and revolute, the base obtuse to rounded and often shortly decurrent; petiole slender, 1.5–2 mm diam., with an expanded, clasping, brownish base with scarious margins. Inflorescence a panicle of racemules (or sometimes umbellules), terminal, erect, light green, occasionally tinged

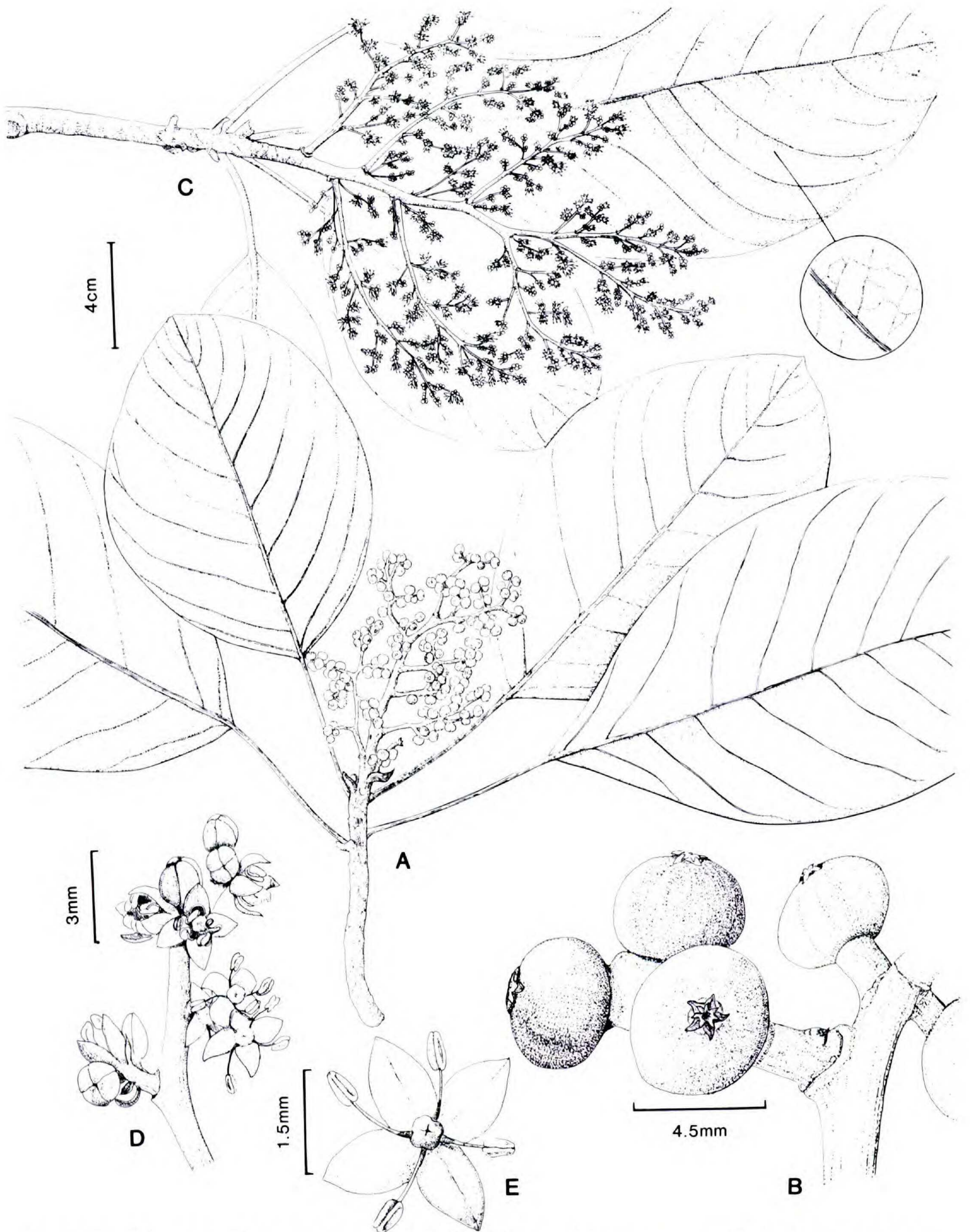


FIGURE 1. *Meryta tenuifolia*.—A. Branch of pistillate plant with infructescence.—B. Nearly mature fruit.—C. Branch of staminate plant with inflorescence.—D. Tertiary axis with staminate flowers.—E. Staminate flower at anthesis (top view).

orangish; primary axis slender, in staminate plants to 20 cm long, in pistillate plants to 10 cm long; the secondary axes 6–8, scattered, ascending, on staminate plants 6–9 cm long, on pistillate plants 3–4 cm long, each subtended by an early-caducous, ovate, cupulate, scarious, strongly adaxially concave cataphyll 12–15 mm long; tertiary axes subtended by small, scarious, caducous bractlets, the axes on staminate plants 6–12, ascending, 12–25 mm long, each with 3–6 racemules (sometimes reduced to umbellules) of (3–) 4–6 sessile flowers, the axes on pistillate plants 4–6, ascending to spreading, 4–12 mm long, each with 4–6(–7) racemosely arranged sessile flowers. Staminate flowers ovate in bud; sepals wanting; petals 4, ovate, spreading at anthesis, ca. 1.5 mm long; stamens 4, inflexed in bud, ascending at anthesis, cream white, the filaments slender, 1.5–2 mm long, the anthers with 4 thecae, dorsifixed; the rounded nectar disk yellowish, weakly 4-sided. Pistillate flowers ovate-pyriform in bud; sepals wanting; petals 4 or 5, narrowly deltoid, subacute, recurved after anthesis, ca. 0.5 mm long, expanding to 0.6–0.9 × 0.9–1.3 mm in fruit; stamens vestigial, 0.5–0.8 mm long, caducous, the anthers sterile; ovary inferior, (5–)6–10-carpellate, ca. 1.5–2 mm high at anthesis, the flattened nectar disk 1–1.5 mm diam., expanding to ca. 2 mm in fruit; styles (5–)6–10, united basally, the free arms erect to ascending at anthesis, 0.3–0.6 mm long, in fruit expanding to 0.5–1 mm long, becoming divergent. Fruit a drupe, olive green when nearly mature, subglobose-oblate, 2–3.5(–4.5) × (3.5–)4–5.5 mm, smooth and plump when fresh, turning strongly and acutely (5–)6–10-costate when dry.

Additional specimens examined. FIJI. VITI LEVU: Navosa Prov., edge of Rairaimatuku Plateau, E and above Vanualevu village, dense forest on slight slope, 980 m, 18 Nov. 1985 (staminate bud, fl), *P. P. Lowry* 3838 (BISH, MO (3 sheets), P, US); (pistillate fl, fr), 3839 (BISH, MO (3 sheets), P, US).

As Smith (1985) indicated, *Meryta tenuifolia* does not appear to be closely related to

the very distinctive species occurring in Vanuatu and Samoa. Furthermore, it does not show strong affinities with species of *Meryta* on Rarotonga, Norfolk Island, and New Zealand. However, until my upcoming detailed revision of the genus has been completed, it will not be possible to determine whether *M. tenuifolia* is closest to Polynesian species such as *M. choristantha* Harms of Rapa, as suggested by Smith (1985), or to New Caledonian species such as *M. balansae* Baill.

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LITERATURE CITED

- COX, P. A. 1985. The genus *Meryta* (Araliaceae) in Samoa. *J. Arnold Arbor.* 66: 113–121.
- MORAT, PH. & J.-M. VEILLON. 1985. Contribution à la connaissance de la végétation et de la flore de Wallis et Futuna. *Bull. Mus. Natl. Hist. Nat., Paris, Sér. 4, Sect. B, Adansonia* 7: 259–329.
- SMITH, A. C. 1971. Studies of Pacific Island plants, XXII. New flowering plants from Fiji. *Pacific Sci.* 25: 491–501.
- . 1985. *Flora Vitiensis Nova*, Volume 3. Pacific Tropical Botanical Garden, Lawai, Kauai, Hawaii.
- & B. C. STONE. 1968. Studies of Pacific Island plants, XIX. The Araliaceae of the New Hebrides, Fiji, Samoa, and Tonga. *J. Arnold Arbor.* 49: 431–493.
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